SUNNYSIDE PARK (PWS 2180004)
SOURCE WATER ASSESSMENT FINAL REPORT

March 21, 2003

State of Idaho
Department of Environmental Quality

Executive Summary

Under the Safe Drinking Water Act Amendments of 1996, all states are required by the U.S. Environmental Protection Agency (EPA) to assess every source of public drinking water for its relative sensitivity to contaminants regulated by the Act. This assessment is based on a land use inventory of the designated source water assessment area and sensitivity factors associated with the well and aquifer characteristics.

This report, *Source Water Assessment for Sunnyside Park, Ahsahka, Idaho*, describes the public drinking water system, the boundaries of the zones of water contribution, and the associated potential contaminant sources located within these boundaries. This assessment should be used as a planning tool, taken into account with local knowledge and concerns, to develop and implement appropriate protection measures for this source. **The results should <u>not be</u> used as an absolute measure of risk and they should <u>not be</u> used to undermine public confidence in the water system.**

The Sunnyside Park is a community drinking water system consisting of one active ground water well. The system currently serves 30 people through 18 connections. The well is located approximately three miles west of Ahsahka off of Highway 7 north of the Clearwater River.

Final susceptibility scores are derived from equally weighing system construction scores, hydrologic sensitivity scores, and potential contaminant/land use scores. Therefore, a low rating in one or two categories coupled with a higher rating in another category results in a final rating of low, moderate, or high susceptibility. With the potential contaminants associated with most urban and heavily agricultural areas, the best score a well can get is moderate. Potential Contaminants/Land Uses are divided into four categories, inorganic chemical (IOC, e.g. nitrates, arsenic) contaminants, volatile organic chemical (VOC, e.g. petroleum products) contaminants, synthetic organic chemical (SOC, e.g. pesticides) contaminants, and microbial contaminants (e.g. bacteria). As different wells can be subject to various contamination settings, separate scores are given for each type of contaminant.

In terms of total susceptibility, the well rated moderate for IOCs, VOCs, SOCs, and microbial contaminants. A well log was unavailable for the Sunnyside well, resulting in a high system construction score and a moderate hydrologic sensitivity score. A limited number of potential contaminant sources around the well and the woodland land use resulted in moderate potential contaminant inventory/land use scores for IOCs, VOCs, and SOCs and a low score for microbial contaminants. The higher scores of system construction and hydrologic sensitivity combined with the lower scores of land use contributed to the overall moderate susceptibility of the system.

No VOCs or SOCs have ever been detected in the well. Trace concentrations of the IOC nitrate have been detected in tested water, but at concentrations significantly below the maximum contaminant level (MCL) as set by the EPA. Total coliform bacteria have been detected in the distribution system and well from 1995 to 1999 with one confirmed detection in the distribution system in September 1995. However, no recent detections have been recorded.

Arsenic was detected at high levels in the well. In April 1996, arsenic was detected at 16 micrograms per liter (μg/L) and again in September 2001 at 18 μg/L, levels greater than the recently revised MCL of 10 μg/L. In October 2001, the EPA lowered the arsenic MCL from 50 μg/L to 10 μg/L, giving public water systems (PWSs) until 2006 to meet the new requirement. EPA requires reporting to the Consumer Confidence Report (CCR) any detected concentrations of regulated compounds that are greater than half their MCL. Further information and health side effects can be researched at http://www.epa.gov/safewater/ccr1.html.

This assessment should be used as a basis for determining appropriate new protection measures or re-evaluating existing protection efforts. No matter what ranking a source receives, protection is always important. Whether the source is currently located in a "pristine" area or an area with numerous industrial and/or agricultural land uses that require surveillance, the way to ensure good water quality in the future is to act now to protect valuable water supply resources. If the system should need to expand in the future, new well sites should be located in areas with as few potential sources of contamination as possible, and the site should be reserved and protected for this specific use.

For Sunnyside Park, drinking water protection activities should first focus on correcting any deficiencies outlined in the sanitary survey (an inspection conducted every five years with the purpose of determining the physical condition of a water system's components and its capacity). Actions should be taken to keep a 50-foot radius perimeter clear of all potential contaminants from around the wellhead. The Sunnyside Park may need to move the sewer line that runs within 50 feet of the wellhead to avoid contamination associated within accidental breaks or releases of this line. Any contaminant spills within the delineation should be carefully monitored and dealt with. The Sunnyside Park may need to implement engineering controls to reduce the amount of arsenic in the well. The EPA plans to provide up to $20 million over the next two years for research and development of more cost-effective technologies to help small systems meet the new arsenic standard. To further assist PWSs in meeting the new arsenic MCL, the EPA (2002) recently released an issue paper entitled *Proven Alternatives for Aboveground Treatment of Arsenic in Ground water* and *Arsenic Treatment Technologies for Soil, Waste, and Water*.

As much of the designated protection areas are outside the direct jurisdiction of Sunnyside Park, collaboration and partnerships with state and local agencies, and industry groups should be established and are critical to the success of drinking water protection. Providing state and local agencies with a well log and a recent sanitary survey may assist them in identifying the appropriate drinking water protection needs. In addition, the well should maintain sanitary standards regarding wellhead protection.

Due to the time involved with the movement of ground water, drinking water protection activities should be aimed at long-term management strategies even though these strategies may not yield results in the near term. A strong public education program should be a primary focus on any drinking water protection plan as the delineation contains some urban and residential land uses. Public education topics could include proper lawn care practices, household hazardous waste disposal methods, and the importance of water conservation to name but a few. There are multiple resources available to help communities implement protection programs, including the Drinking Water Academy of the EPA. As there are transportation corridors through the delineation, the Idaho Department of Transportation should be involved in protection activities.

A community must incorporate a variety of strategies in order to develop a comprehensive drinking water protection plan, be they regulatory in nature (e.g. zoning, permitting) or non-regulatory in nature (e.g. good housekeeping, public education, specific bet management practices). For assistance in developing protection strategies please contact the Lewiston Regional Office of the Idaho Department of Environmental Quality or the Idaho Rural Water Association.

SOURCE WATER ASSESSMENT FOR S
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Section 1. Introduction - Basis for Assessment

The following sections contain information necessary to understand how and why this assessment was conducted. **It is important to review this information to understand what the rankings of this assessment mean.** Maps showing the delineated source water assessment area and the inventory of significant potential sources of contamination identified within that area are attached. The list of significant potential contaminant source categories and their rankings used to develop the assessment is also included.

Background

Under the Safe Drinking Water Act Amendments of 1996, all states are required by the EPA to assess every source of public drinking water for its relative susceptibility to contaminants regulated by the Safe Drinking Water Act. This assessment is based on a land use inventory of the delineated assessment area and sensitivity factors associated with the wells and aquifer characteristics.

Level of Accuracy and Purpose of the Assessment

Since there are over 2,900 public water sources in Idaho, there is limited time and resources to accomplish the assessments. All assessments must be completed by May of 2003. An in-depth, site-specific investigation of each significant potential source of contamination is not possible. **Therefore, this assessment should be used as a planning tool, taken into account with local knowledge and concerns, to develop and implement appropriate protection measures for this source. The results should <u>not be</u> used as an absolute measure of risk and they should <u>not be</u> used to undermine public confidence in the water system.**

The ultimate goal of the assessment is to provide data to local communities to develop a protection strategy for their drinking water supply system. The Idaho Department of Environmental Quality (DEQ) recognizes that pollution prevention activities generally require less time and money to implement than treatment of a public water supply system once it has been contaminated. DEQ encourages communities to balance resource protection with economic growth and development. The local community, based on its own needs and limitations, should determine the decision as to the amount and types of information necessary to develop a drinking water protection program. Wellhead or drinking water protection is one facet of a comprehensive growth plan, and it can complement ongoing local planning efforts.

Section 2. Conducting the Assessment

General Description of the Source Water Quality

The Sunnyside Park is a community drinking water system consisting of one active ground water well. The system currently serves 30 people through 18 connections. The well is located approximately three miles west of Ahsahka off of Highway 7 north of the Clearwater River (Figure 1).

No VOCs or SOCs have ever been detected in the well. Trace concentrations of the IOC nitrate have been detected in tested water, but at concentrations significantly below the MCL as set by the EPA. Total coliform bacteria have been detected in the distribution system and well from 1995 to 1999 with one confirmed detection in the distribution system in September 1995. However, no recent detections have been recorded.

Arsenic was detected at high levels in the well. In April 1996, arsenic was detected at 16 µg/L and again in September 2001 at 18 µg/L, levels greater than the recently revised MCL of 10 µg/L. In October 2001, the EPA lowered the arsenic MCL from 50 µg/L to 10 µg/L, giving PWSs until 2006 to meet the new requirement. EPA requires reporting to the CCR any detected concentrations of regulated compounds that are greater than half their MCL. Further information and health side effects can be researched at http://www.epa.gov/safewater/ccr1.html.

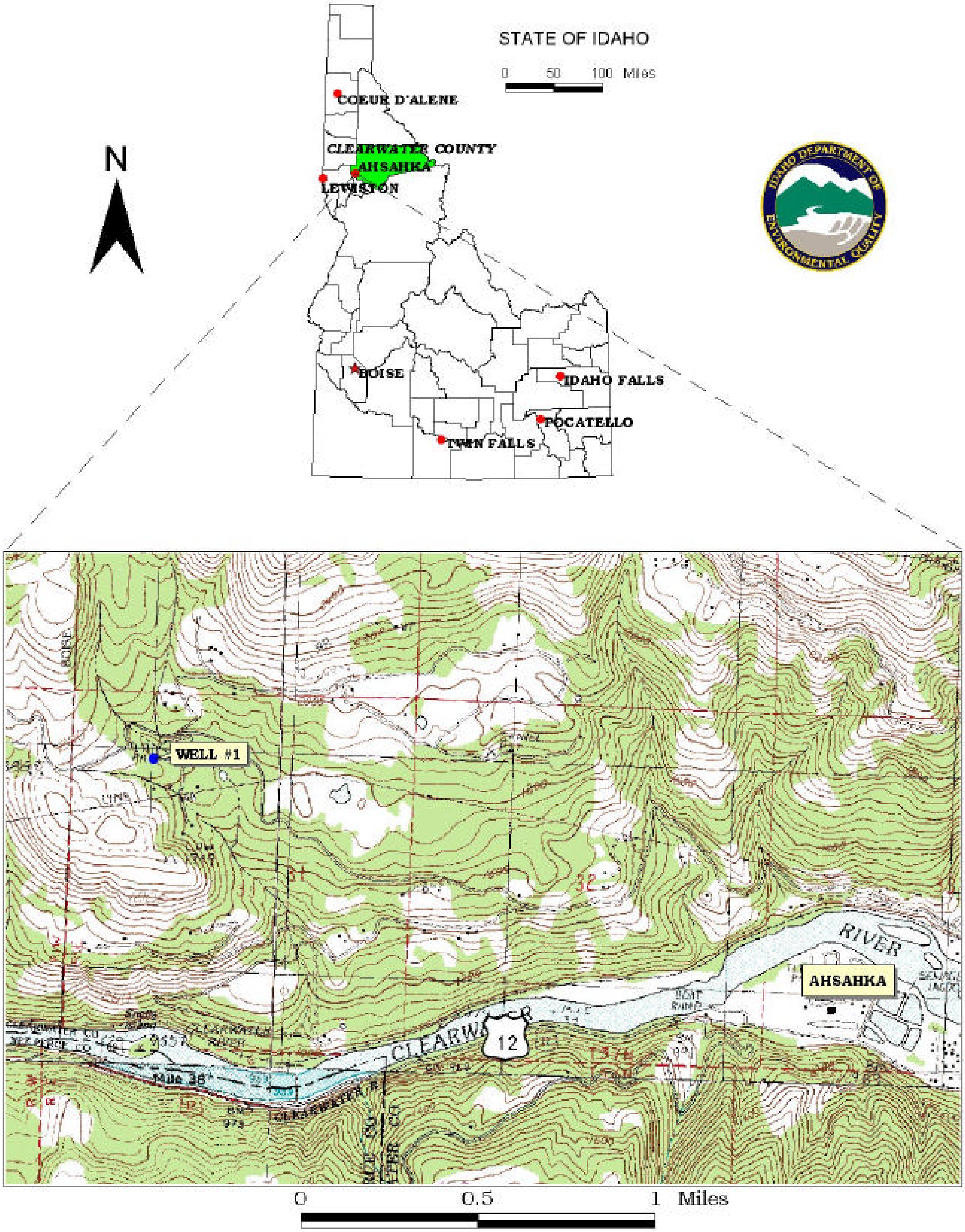
Defining the Zones of Contribution – Delineation

The delineation process establishes the physical area around a well that will become the focal point of the assessment. The process includes mapping the boundaries of the zone of contribution into time-of-travel (TOT) zones (zones indicating the number of years necessary for a particle of water to reach a well) for water in the aquifer. DEQ contracted with the University of Idaho to perform the delineations using a refined computer model approved by the EPA in determining the 3-year (Zone 1B), 6-year (Zone 2), and 10-year (Zone 3) TOT for water in the vicinity of the Sunnyside Park well. The computer model used site specific data, assimilated by the University of Idaho from a variety of sources including operator input, local area well logs, and hydrogeologic reports (detailed below).

The conceptual hydrogeologic model for the Sunnyside Park source well, Well #1, is based on interpretation of available well logs and published geologic maps. Sunnyside Park is located a few thousand meters west of Ahsahka, Idaho. The source well log indicates water is derived from basalt of the Columbia River Basalt Group. The geology is based on the Pullman Quadrangle geologic map at a scale of 1:250,000 (Rember and Bennett, 1979). Geology of the area is quite complex with nearby alluvium along the banks of the Celarwater River and the North Fork of the Clearwater River, and crystalline rock of the Idaho Batholith and Pre-Cambrian Belt Supergroup.

The ground elevation is approximately 1,840 feet above mean sea level (msl). Nearby elevations range from approximately 980 feet above msl to 3,000 feet above msl. Discharge from Well #1 is only 9 gallons per minute (gpm). Little information is known about the hydrogeology of the area.

FIGURE 1. Geographic Location of Sunnyside Park



Neighboring private wells were used for test points in the WhAEM simulations. Information on test points was obtained from a search of the Idaho Department of Water Resources database available on the Internet. The locations of the test points are limited to information supplied on well logs, typically the quarter-quarter section (0.25 mile^2). Therefore, the accuracy of the test point elevations and the static water elevations is dependent upon the accuracy of the driller's log and the amount of topographic relief in the quarter-quarter section.

Water from the source well is derived from a basalt aquifer. The geologic contacts between the basalt and crystalline rock outcrops of the Idaho Batholith and Belt Supergroup to the south exist approximately 300 meters north of the rivers (Rember and Bennett, 1979).

There are no mapped structural features in the vicinity of the source.

The headwaters of the Clearwater River are approximately seven miles east of Syringa, Idaho at the confluence of the Lochsa and Selway Rivers. The river discharges into the Snake River at Lewiston. Most of the water in the river during baseflow conditions is from ground water and water released from the Dworshak Reservoir. Snowmelt runoff during the spring months also contributes to the river. Near Kamiah, the Clearwater River separates two generalized hydrologic provinces, the Clearwater Plateau to the west and the Clearwater Uplands to the east. The river is not believed to contribute to the hydrology of the source because the geologic contact separates the rivers from the source.

The headwaters of the North Fork of the Clearwater Rive are to the north, and include Dworshak Reservoir. The North Fork discharges into the Clearwater River at Ahsahka. It is also not believed to recharge the basalt aquifer at the source location.

The geologic contact between the crystalline rock and the basalt should be represented as a negative flux boundary because water flows toward the river. Ground water elevations are several hundred feet higher than the river elevation. A constant head boundary along the Clearwater River is necessary to establish the correct ground water flow direction. A flux boundary is not included along the geologic contact because no flux rate data are available.

A constant head boundary with an elevation of 1,385 feet above msl is located along the main fork of the Clearwater River. The River is not believed to act as a constant head but is represented as such because a constant head boundary is necessary to provide the model with a reference head and a flow direction (flow is towards the constant head boundary). The actual river elevation is 993 feet above msl. The need for this fictitious boundary elevation is because WhAEM cannot simulate the observed gradient change to the River with a homogeneous hydraulic conductivity.

The North Fork of the Clearwater River is not represented as a boundary.

No aquifer recharge data are available for the Ahsahka/Sunnyside Park area. In a study by Wyatt-Jaykim (1994), recharge to the central basin (Lewiston Basin) was modeled as one inch per year (in/yr); two in/yr was selected in the higher areas. Because the Ahsahka area lies at a higher elevation, precipitation rates are probably somewhat greater. Recharge is therefore expected to be greater.

The amount of areal recharge used in the model for the source well was 2 in/year. This is a low value for the higher elevations and therefore conservative for these delineations. Elevations in the vicinity of the well are approximately 1,400 feet above msl with the nearby topography climbing to 3,000 feet above msl compared to Lewiston at approximately 700 feet above msl.

The WhAEM model was used to delineate the capture zones. The capture zones herein are based on limited data and must be taken as best estimates. If more data become available in the future, these delineations should be adjusted based on additional modeling incorporating the new data.

The delineation for the well of the Sunnyside Park can best be described as a rectangular corridor extending northward for approximately one-quarter of a mile, crossing Highway 7 in the 3-year and 6-year TOT zones (Figure 2). The actual data used by the University of Idaho in determining the source water assessment delineation area is available from DEQ upon request.

Identifying Potential Sources of Contamination

A potential source of contamination is defined as any facility or activity that stores, uses, or produces, as a product or by-product, the contaminants regulated under the Safe Drinking Water Act and has a sufficient likelihood of releasing such contaminants at levels that could pose a concern relative to drinking water sources. The goal of the inventory process is to locate and describe those facilities, land uses, and environmental conditions that are potential sources of ground water contamination. The locations of potential sources of contamination within the delineation areas were obtained by field surveys conducted by DEQ and from available databases.

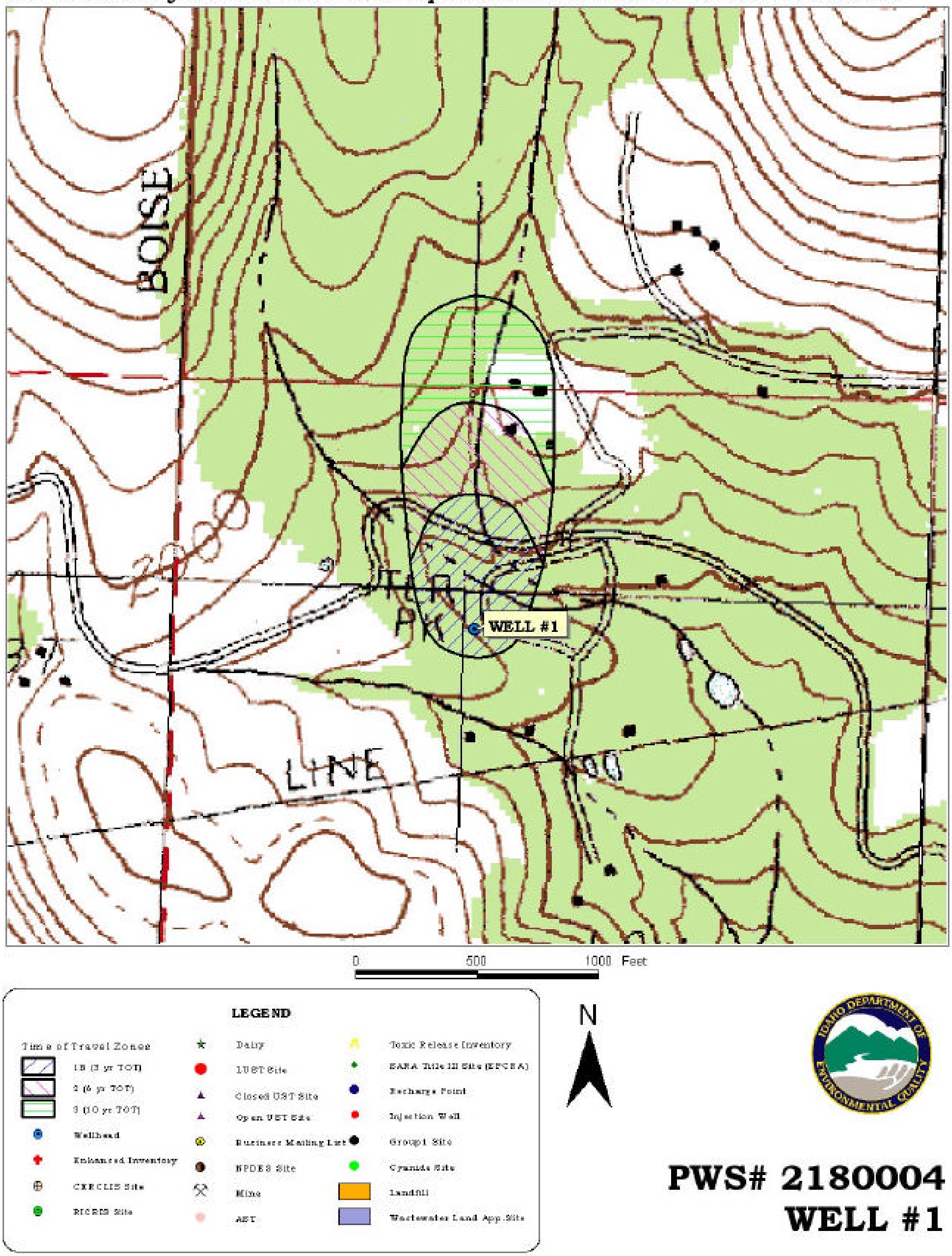
Land use within the immediate area and the surrounding area of the Sunnyside Park well contains woodland and rangeland.

It is important to understand that a release may never occur from a potential source of contamination provided they are using best management practices. Many potential sources of contamination are regulated at the federal level, state level, or both to reduce the risk of release. Therefore, when a business, facility, or property is identified as a potential contaminant source, this should not be interpreted to mean that this business, facility, or property is in violation of any local, state, or federal environmental law or regulation. What it does mean is that the <u>potential</u> for contamination exists due to the nature of the business, industry, or operation. There are a number of methods that water systems can use to work cooperatively with potential sources of contamination, including educational visits and inspections of stored materials. Many owners of such facilities may not even be aware that they are located near a public water supply well.

Contaminant Source Inventory Process

A two-phased contaminant inventory of the study area was conducted in May and June 2002. The first phase involved identifying and documenting potential contaminant sources within the Sunnyside Park source water assessment area (Figure 2) through the use of computer databases and Geographic Information System (GIS) maps developed by DEQ. The second, or enhanced, phase of the contaminant inventory involved contacting the operator to identify and add any additional potential sources in the area.

FIGURE 2. Sunnyside Park Delineation Map and Potential Contaminant Source Locations



PWS# 2180004
WELL #1

The delineated source water assessment area of the Sunnyside Park well contains Highway 7, Cavendish Road, a seasonal creek, and the driveway into the mobile home park (Table 1). These potential contaminants can contribute leachable contaminants to the aquifer in the event of an accidental spill, release, or flood.

Table 1. Sunnyside Park, Well, Potential Contaminant Inventory and Land Use

Site	Description of Source[1]	TOT[2] Zone	Source of Information	Potential Contaminants[3]
	Highway 7	0-6 YR	GIS Map	IOC, VOC, SOC, Microbials
	Driveway	0-3 YR	GIS Map	IOC, VOC, SOC, Microbials
	Cavendish Road	0-3 YR	GWUDI Survey	IOC, VOC, SOC, Microbials
	Seasonal Creek	0-3 YR	GWUDI Survey	IOC, VOC, SOC, Microbials

[2] TOT = time-of-travel (in years) for a potential contaminant to reach the wellhead

[3] IOC = inorganic chemical, VOC = volatile organic chemical, SOC = synthetic organic chemical

Section 3. Susceptibility Analysis

A well's susceptibility to contamination was ranked as high, moderate, or low risk according to the following considerations: hydrologic characteristics, physical integrity of the well, land use characteristics, and potentially significant contaminant sources. The susceptibility rankings are specific to a particular potential contaminant or category of contaminants. Therefore, a high susceptibility rating relative to one potential contaminant does not mean that the water system is at the same risk for all other potential contaminants. The relative ranking that is derived for each well is a qualitative, screening-level step that, in many cases, uses generalized assumptions and best professional judgement. Appendix A contains the susceptibility analysis worksheets for the system. The following summaries describe the rationale for the susceptibility ranking.

Hydrologic Sensitivity

The hydrologic sensitivity of a well is dependent upon four factors: the surface soil composition, the material in the vadose zone (between the land surface and the water table), the depth to first ground water, and the presence of a 50-foot thick fine-grained zone (aquitard) above the producing zone of the well. Slowly draining soils such as silt and clay typically are more protective of ground water than coarse-grained soils such as sand and gravel. Similarly, fine-grained sediments in the subsurface and a water depth of more than 300 feet protect the ground water from contamination.

Hydrologic sensitivity rated moderate for the Sunnyside Park well. This is based upon poor to moderately drained soil classes defined by the National Resource Conservation Service (NRCS). Soils that have poor to moderate drainage characteristics have better filtration capabilities than faster draining soils. A well log was not available, preventing a determination of the composition of the vadose zone, depth to first ground water, or the presence of any low permeable soil units above the producing zone of the well.

Well Construction

Well construction directly affects the ability of the well to protect the aquifer from contaminants. System construction scores are reduced when information shows that potential contaminants will have a more difficult time reaching the intake of the well. Lower scores imply a system is less vulnerable to contamination. For example, if the well casing and annular seal both extend into a low permeability unit, then the possibility of contamination is reduced and the system construction score goes down. If the highest production interval is more than 100 feet below the water table, then the system is considered to have better buffering capacity.

If the wellhead and surface seal are maintained to standards, as outlined in sanitary surveys, then contamination down the well bore is less likely. If the well is protected from surface flooding and is outside the 100-year floodplain, then contamination from surface events is reduced. A sanitary survey was conducted in 2000 for the system.

The Sunnyside Park well rated high for system construction. A well log was unavailable, limiting the information regarding the placement of the annular seal and casing, the casing thickness and diameter, the static water level, and the highest production zone of the well. A hand drawn representation of the well notes that 6-inch casing is installed from land surface to 117 feet below ground followed by an open hole to 246 feet below ground. The 1981 sanitary survey indicates that well is properly protected from surface flooding and that the seals are maintained to standards. However, the well lacks a casing vent. The purpose of the vent is to vent the space between the casing and the column and prevent a vacuum from forming when the well turns on and draws down the water table. A vacuum could draw in contamination through joints or leaks in the casing or cause the well to slough. The well is located outside a 100-year floodplain.

Though the well may have been in compliance with standards when it was completed, current PWS well construction standards are more stringent. The Idaho Department of Water Resources *Well Construction Standards Rules* (1993) require all PWSs to follow DEQ standards as well. IDAPA 58.01.08.550 requires that PWSs follow the *Recommended Standards for Water Works* (1997) during construction. These standards include provisions for well screens, pumping tests, and casing thicknesses to name a few. Table 1 of the *Recommended Standards for Water Works* (1997) lists the required steel casing thickness for various diameter wells. In this case, there was insufficient information available to determine if the well meets all the criteria outlined in the IDWR Well Construction Standards. Therefore, a higher, more conservative score was given for system construction.

Potential Contaminant Source and Land Use

The well rated moderate for IOCs (e.g. nitrates, arsenic), VOCs (e.g. petroleum products, chlorinated solvents), and SOCs (e.g. pesticides), and low for microbial contaminants (e.g. bacteria). The limited number of potential contaminant sources in the delineation and the lower impact woodland land use contributed to the potential contaminant and land use scores.

Final Susceptibility Ranking

An IOC detection above a drinking water standard MCL, any detection of a VOC or SOC, or a detection of total coliform bacteria or fecal coliform bacteria at the wellhead will automatically give a high susceptibility rating to a well despite the land use of the area because a pathway for contamination already exists. Additionally, if there are contaminant sources located within 50 feet of the source then the wellhead will automatically get a high susceptibility rating. Hydrologic sensitivity and system construction scores are heavily weighted in the final scores. Having multiple potential contaminant sources in the 0 to 3-year time of travel zone (Zone 1B) and agricultural land contribute greatly to the overall ranking. The well rated moderate susceptibility for IOCs, VOCs, SOCs, and microbial contaminants.

Table 2. Summary of Sunnyside Park Susceptibility Evaluation

Well	Susceptibility Scores[1]									
	Hydrologic Sensitivity	Contaminant Inventory				System Construction	Final Susceptibility Ranking			
		IOC	VOC	SOC	Microbials		IOC	VOC	SOC	Microbials
Well	M	M	M	M	L	H	M	M	M	M

[1]**H = High Susceptibility, M = Moderate Susceptibility, L = Low Susceptibility,**
IOC = inorganic chemical, VOC = volatile organic chemical, SOC = synthetic organic chemical

Susceptibility Summary

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In terms of total susceptibility, the well rated moderate for IOCs, VOCs, SOCs, and microbial contaminants. A well log was unavailable for the Sunnyside well, resulting in a high system construction score and a moderate hydrologic sensitivity score. A limited number of potential contaminant sources around the well and the woodland land use resulted in moderate potential contaminant inventory/land use scores for IOCs, VOCs, and SOCs and a low score for microbial contaminants. The higher scores of system construction and hydrologic sensitivity combined with the lower scores of land use contributed to the overall moderate susceptibility of the system.

Section 4. Options for Drinking Water Protection

The susceptibility assessment should be used as a basis for determining appropriate new protection measures or re-evaluating existing protection efforts. No matter what the susceptibility ranking a source receives, protection is always important. Whether the source is currently located in a "pristine" area or an area with numerous industrial and/or agricultural land uses that require surveillance, the way to ensure good water quality in the future is to act now to protect valuable water supply resources.

For Sunnyside Park, drinking water protection activities should first focus on correcting any deficiencies outlined in the sanitary survey. Actions should be taken to keep a 50-foot radius perimeter clear of all potential contaminants from around the wellhead. Any contaminant spills within the delineation should be carefully monitored and dealt with. The Sunnyside Park may need to implement engineering controls to reduce the amount of arsenic in the well. The EPA plans to provide up to $20 million over the next two years for research and development of more cost-effective technologies to help small systems meet the new arsenic standard. To further assist PWSs in meeting the new arsenic MCL, the EPA (2002) recently released an issue paper entitled *Proven Alternatives for Aboveground Treatment of Arsenic in Ground water* and *Arsenic Treatment Technologies for Soil, Waste, and Water*.

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A system must incorporate a variety of strategies in order to develop a comprehensive drinking water protection plan, be they regulatory in nature (e.g. zoning, permitting) or non-regulatory in nature (e.g. good housekeeping, public education, specific best management practices). For assistance in developing protection strategies please contact the Lewiston Regional Office of the DEQ or the Idaho Rural Water Association.

Assistance

Public water supplies and others may call the following DEQ offices with questions about this assessment and to request assistance with developing and implementing a local protection plan. In addition, draft protection plans may be submitted to the DEQ office for preliminary review and comments.

Lewiston Regional DEQ Office	(208) 799-4370
State DEQ Office	(208) 373-0502

Website: http://www.deq.state.id.us

Water suppliers serving fewer than 10,000 persons may contact Melinda Harper, mlharper@idahoruralwater.com, Idaho Rural Water Association, at 208-343-7001 for assistance with drinking water protection (formerly wellhead protection) strategies.

POTENTIAL CONTAMINANT INVENTORY
LIST OF ACRONYMS AND DEFINITIONS

AST (Aboveground Storage Tanks) – Sites with aboveground storage tanks.

Business Mailing List – This list contains potential contaminant sites identified through a yellow pages database search of standard industry codes (SIC).

CERCLIS – This includes sites considered for listing under the **Comprehensive Environmental Response Compensation and Liability Act (CERCLA)**. CERCLA, more commonly known as Superfund is designed to clean up hazardous waste sites that are on the national priority list (NPL).

Cyanide Site – DEQ permitted and known historical sites/facilities using cyanide.

Dairy – Sites included in the primary contaminant source inventory represent those facilities regulated by Idaho State Department of Agriculture (ISDA) and may range from a few head to several thousand head of milking cows.

Deep Injection Well – Injection wells regulated under the Idaho Department of Water Resources generally for the disposal of stormwater runoff or agricultural field drainage.

Enhanced Inventory – Enhanced inventory locations are potential contaminant source sites added by the water system. These can include new sites not captured during the primary contaminant inventory, or corrected locations for sites not properly located during the primary contaminant inventory. Enhanced inventory sites can also include miscellaneous sites added by the Idaho Department of Environmental Quality (DEQ) during the primary contaminant inventory.

Floodplain – This is a coverage of the 100year floodplains.

Group 1 Sites – These are sites that show elevated levels of contaminants and are not within the priority one areas.

Inorganic Priority Area – Priority one areas where greater than 25% of the wells/springs show constituents higher than primary standards or other health standards.

Landfill – Areas of open and closed municipal and non-municipal landfills.

LUST (Leaking Underground Storage Tank) – Potential contaminant source sites associated with leaking underground storage tanks as regulated under RCRA.

Mines and Quarries – Mines and quarries permitted through the Idaho Department of Lands.)

Nitrate Priority Area – Area where greater than 25% of wells/springs show nitrate values above 5 mg/L.

NPDES (National Pollutant Discharge Elimination System) – Sites with NPDES permits. The Clean Water Act requires that any discharge of a pollutant to waters of the United States from a point source must be authorized by an NPDES permit.

Organic Priority Areas – These are any areas where greater than 25% of wells/springs show levels greater than 1% of the primary standard or other health standards.

Recharge Point – This includes active, proposed, and possible recharge sites on the Snake River Plain.

RICRIS – Site regulated under **Resource Conservation Recovery Act (RCRA)**. RCRA is commonly associated with the cradle to grave management approach for generation, storage, and disposal of hazardous wastes.

SARA Tier II (Superfund Amendments and Reauthorization Act Tier II Facilities) – These sites store certain types and amounts of hazardous materials and must be identified under the Community Right to Know Act.

Toxic Release Inventory (TRI) – The toxic release inventory list was developed as part of the Emergency Planning and Community Right to Know (Community Right to Know) Act passed in 1986. The Community Right to Know Act requires the reporting of any release of a chemical found on the TRI list.

UST (Underground Storage Tank) – Potential contaminant source sites associated with underground storage tanks regulated as regulated under RCRA.

Wastewater Land Applications Sites – These are areas where the land application of municipal or industrial wastewater is permitted by DEQ.

Wellheads – These are drinking water well locations regulated under the Safe Drinking Water Act. They are not treated as potential contaminant sources.

NOTE: Many of the potential contaminant sources were located using a geocoding program where mailing addresses are used to locate a facility. Field verification of potential contaminant sources is an important element of an enhanced inventory.

Where possible, a list of potential contaminant sites unable to be located with geocoding will be provided to water systems to determine if the potential contaminant sources are located within the source water assessment area.

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Appendix A

Sunnyside Park
Susceptibility Analysis
Worksheet

The final scores for the susceptibility analysis were determined using the following formulas:

1) VOC/SOC/IOC Final Score = Hydrologic Sensitivity + System Construction + (Potential Contaminant/Land Use x 0.2)

2) Microbial Final Score = Hydrologic Sensitivity + System Construction + (Potential Contaminant/Land Use x 0.375)

Final Susceptibility Scoring:

0 - 5 Low Susceptibility

6 - 12 Moderate Susceptibility

≥ 13 High Susceptibility

Ground Water Susceptibility Report Public Water System Name : SUNNYSIDE PARK Well# : WELL #1
Public Water System Number 2180004 2/14/03 9:56:02 AM

1. System Construction		SCORE
Drill Date	UNKNOWN	
Driller Log Available	NO	
Sanitary Survey (if yes, indicate date of last survey)	YES	1978
Well meets IDWR construction standards	NO	1
Wellhead and surface seal maintained	NO	1
Casing and annular seal extend to low permeability unit	NO	2
Highest production 100 feet below static water level	NO	1
Well located outside the 100 year flood plain	YES	0
Total System Construction Score		5

2. Hydrologic Sensitivity		
Soils are poorly to moderately drained	YES	0
Vadose zone composed of gravel, fractured rock or unknown	YES	1
Depth to first water > 300 feet	NO	1
Aquitard present with > 50 feet cumulative thickness	NO	2
Total Hydrologic Score		4

3. Potential Contaminant / Land Use - ZONE 1A		IOC Score	VOC Score	SOC Score	Microbial Score
Land Use Zone 1A	RANGELAND, WOODLAND, BASALT	0	0	0	0
Farm chemical use high	NO	0	0	0	
IOC, VOC, SOC, or Microbial sources in Zone 1A	NO	NO	NO	NO	NO
Total Potential Contaminant Source/Land Use Score - Zone 1A		0	0	0	0
Potential Contaminant / Land Use - ZONE 1B					
Contaminant sources present (Number of Sources)	YES	4	4	4	4
(Score = # Sources X 2) 8 Points Maximum		8	8	8	8
Sources of Class II or III leacheable contaminants or	YES	4	4	4	
4 Points Maximum		4	4	4	
Zone 1B contains or intercepts a Group 1 Area	NO	0	0	0	0
Land use Zone 1B	Less Than 25% Agricultural Land	0	0	0	0
Total Potential Contaminant Source / Land Use Score - Zone 1B		12	12	12	8
Potential Contaminant / Land Use - ZONE II					
Contaminant Sources Present	YES	2	2	2	
Sources of Class II or III leacheable contaminants or	YES	1	1	1	
Land Use Zone II	Less than 25% Agricultural Land	0	0	0	
Potential Contaminant Source / Land Use Score - Zone II		3	3	3	0
Potential Contaminant / Land Use - ZONE III					
Contaminant Source Present	NO	0	0	0	
Sources of Class II or III leacheable contaminants or	NO	0	0	0	
Is there irrigated agricultural lands that occupy > 50% of	NO	0	0	0	
Total Potential Contaminant Source / Land Use Score - Zone III		0	0	0	0
Cumulative Potential Contaminant / Land Use Score		15	15	15	8
4. Final Susceptibility Source Score		12	12	12	12
5. Final Well Ranking		Moderate	Moderate	Moderate	Moderate